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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,128	12/19/2003	Ankur P. Panchbudhe	VRT0117US	5026

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EXAMINER	
DOAN, DUC T	
ART UNIT	**PAPER NUMBER**
2188	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/742,128	PANCHBUDHE ET AL.	
	Examiner	Art Unit	
	DUC T. DOAN	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27,29-42,44-46,48-50,52-54 and 62-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27, 29-42, 44-46, 48-50, 52-54 and 62-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-64 have been presented for examination in this application.

Claims 1-26, 28, 43, 47, 51 and 55-61 have been canceled.

Claims 27, 29-42, 44-46, 48-50, 52-54 and 62-64 remain pending.

Claims 27, 29-42, 44-46, 48-50, 52-54 and 62-64 are rejected.

Applicant's remarks filed 11/7/2008 have been fully considered but they are mooted in view of new ground(s) of rejection applied with new reference(s) found.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set for in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.1 14, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.1 14. Applicant's submission filed on 11/7/2008 has been entered.

U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 46, 48, 49 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 46, lines 8-10 recites "..perform the operation upon a given of the plurality of locations in the volume". Line 10 further recites "..only if the given location is identified ..". The recitation of "the given location" at line 10 lacks antecedent basis. In addition, it is not clear how to interpret "a given" as recited at lines 8-10. In this instant, it is unclear whether the claim intents to claim a given as data of a size plurality of locations or as data of a size of a location.

As per claim 63, the recitation "the given location" lacks antecedent basis similarly as discussed above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

> (e) the invention was described in (1) an application for patent, published under section 122(b) by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27, 29-42, 44-46, 48-50, 52-54 and 62-64 are rejected under 35 U.S.C. 102 (e) as being anticipated by Lee et al (US Pub. 2003/0149683).

As in claim 27, Lee discloses a method comprising: in response to a request to perform an operation on volume wherein the volume comprises a plurality of locations (Fig 1 a request of an application for an operation regarding data in storage system 140;

data of volume and/or file system 322 324 comprises extents and/or blocks and/or bytes and/or bit etc.. as shown in Fig 5a):

performing the operation upon a given location of the plurality of locations in the volume only if the given location is identified in at least one location description of a sieve associated with the operation (pars. 44-46, metadata/sieve describes objects, files, mapping locations etc..for operation of the application); wherein the sieve comprises the at least one location description and a property (pars. 44-46, 8, 89 and 92, metadata comprises mapping of locations for operations of application running in 310 such as backup, mirror, replicate data etc..); wherein the property comprises information identifying the operation (par. 8, identifying operations such as add delete modifying data for backup etc..), and wherein the at least one location description identifies the set of all locations within the volume upon which the operation can be performed (par. 13, identifying storage locations corresponding to logical object that changed and required for the operation).

As in claim 29, Lee further discloses wherein the at least one location description is specified by an application program (par. 13, the metadata corresponds to logical objects of an application running in 310).

As in claim 30, Lee further discloses wherein the operation is replication (par. 92, replication data).

As in claim 31, Lee further discloses obtaining a set of entities, wherein the plurality of locations comprises a plurality of subsets of locations (par 75, Fig 5(a), location represent chunk of data, which may comprises granularity such as extents,

blocks, bytes bits etc..), an entity in the set of entities has permission to perform the operation on respective data in at least one of the plurality of subsets of locations (par. 13 and 75, Fig 5b, identify changes associating to extents, bytes corresponding to the logic object required for the operation).

As in claim 32, Lee further discloses wherein the at least one location description and the corresponding property are designated by a requester (par 13, the metadata maps logical objects for operation of an application running in 310 and locations in storage 341).

As in claim 33, Lee further discloses obtaining a designation of the operation to be performed (par. 98, operation such as mirror necessitates a copy of primary storage data, i.e reference copy).

As in claim 34, Lee further discloses wherein the requester manages data in the volume (pars 8 and 13, Fig 1, operations of applications running in 310 comprises add delete modifying etc data of 140).

As in claim 35, Lee further discloses wherein the requester performs a management function of a set of management functions for the volume (pars 8 and 13, Fig 1, operations/set of operations of applications running in 310 comprises add delete modifying etc data/set of data of 140).

As in claim 36, Lee further discloses wherein the requester identifies a respective physical location in the volume corresponding to each location described in the at least one location description (Fig 5a).

As in claim 37, Lee further discloses wherein each location described in the at

least one location description is specified by a beginning location and a number of contiguous locations starting at the beginning location (Fig 5a).

As in claim 38, Lee further discloses wherein the at least one location description is designated by a set of indicators, wherein the set of indicators comprises an indicator for each respective location of the plurality of locations (Fig 5b bitmap 511), and each indicator of the set of indicators indicates whether the respective location for the indicator is described in the at least one location description (Fig 5b bitmap 511 of metadata for locations of logical objects 500).

As in claim 39, Lee further discloses obtaining a set of locations; and performing a second operation on the set of locations after the operation is performed on the given location (par. 103, several operations on rows/set of locations).

As in claim 40, Lee further discloses wherein the at least one location description and the corresponding property are designated by the requester; and the operation and the second operation are designated by the requester (par. 103, several operations on rows/set of locations; operations of application running in 310 for data objects stored in 140).

As in claim 41, Lee further discloses wherein each type of operation in the sieve is performed on the given location if the sieve is specified (par. 80, Fig 5b metadata including bitmaps as shown in Fig 5b indicates corresponding locations for the operation).

As in claim 42, Lee further discloses a system comprising: means for storing a sieve associated with an operation (Fig 3, pars. 44-46, metadata/sieve describes

objects, files, mapping locations etc..for operation of the application); and means for performing the following in response to a request to perform the operation on a volume (Fig 3, performing operations of applications running in 310 for data of file system 322 and or LVM 324 stored in 140) wherein the volume comprises a plurality of locations (Fig 3 locations of data/volume stored in 140) and wherein the means for performing the following comprise: means for performing the operation upon a given location of the plurality of locations in the only if the given location is identified in at least one location description of the sieve associated with the operation (pars. 44-46, metadata/sieve describes objects, files, mapping locations etc..for operation of the application), wherein the sieve comprises the at least one location description and a property (pars. 44-46, 8, 89 and 92, metadata comprises mapping of locations for operations of application running in 310 such as backup, mirror, replicate data etc..), wherein the property comprises information identifying the operation (par. 8, identifying operations such as add delete modifying data for backup etc..), and wherein the at least one location description only identifies all locations within the volume upon which the operation can be performed (par. 13, identifying storage locations corresponding to logical object that changed and required for the operation).

As in claim 44, Lee further discloses wherein the at least one location description and the corresponding property are designated by a requester (par 13, the metadata maps logical objects for operation of an application running in 310 and locations in storage 341).

As in claim 45, Lee further discloses means for obtaining a designation of the operation to be performed (par. 98, operation such as mirror necessitates a copy of primary storage data, i.e reference copy).

As in claim 46, Lee discloses a system comprising: one or more storage devices, wherein the one or more storage devices comprise a plurality of locations in a volume (Fig 1 storage 140 stores data/volumes of 322 324), and a module configured to perform the following in response to a request to perform an operation on the volume (Fig 1 a request of an application for an operation regarding data in storage system 140; data of volume and/or file system 322 324 comprises extents and/or blocks and/or bytes and/or bit etc.. as shown in Fig 5a), wherein the module configured to perform the following comprises: a performing module configured to perform the operation upon a given of the plurality of locations in the area volume only if the given location is identified in at least one location description of a sieve (pars. 44-46, metadata/sieve describes objects, files, mapping locations etc..for operation of the application), wherein the sieve comprises the at least one location description and a property (pars. 44-46, 8, 89 and 92, metadata comprises mapping of locations for operations of application running in 310 such as backup, mirror, replicate data etc..), wherein the property comprises information identifying the operation (par. 8, identifying operations such as add delete modifying data for backup etc..), and wherein the at least one location description identifies all storage locations within the volume upon which the operation can be performed (par. 13, identifying storage locations corresponding to logical object that changed and required for the operation).

As in claim 48, Lee further discloses wherein the at least one location description and the corresponding property are designated by a requester (par 13, the metadata maps logical objects for operation of an application running in 310 and locations in storage 341).

As in claim 49, Lee further discloses an obtaining module to obtain a designation of the operation to be performed (par. 98, operation such as mirror necessitates a copy of primary storage data, i.e reference copy).

As in claim 50, Lee discloses a computer-readable storage medium comprising (page 19 claim 28): instructions configured to perform the following in response to a request to perform an operation on a volume, wherein the volume comprises a plurality of locations (Fig 1 a request of an application for an operation regarding data in storage system 140; data of volume and/or file system 322 324 comprises extents and/or blocks and/or bytes and/or bit etc.. as shown in Fig 5a), wherein the instructions configured to perform the following comprise: performing instructions configured to perform the operation upon a given location of the plurality of locations in the storage area volume only if the given location is identified in at least one location description of a sieve associated with the operation (pars. 44-46, metadata/sieve describes objects, files, mapping locations etc..for operation of the application), wherein the sieve comprises the at least one location description and a property (pars. 44-46, 8, 89 and 92, metadata comprises mapping of locations for operations of application running in 310 such as backup, mirror, replicate data etc..), wherein the property comprises information identifying the operation (par. 8, identifying operations such as add delete modifying

data for backup etc..), and wherein the at least one location description identifies all storage locations within volume ,upon which the operation can be performed (par. 13, identifying storage locations corresponding to logical object that changed and required for the operation).

As in claim 52, Lee further discloses wherein the at least one location description and the corresponding property are designated by a requester (par 13, the metadata maps logical objects for operation of an application running in 310 and locations in storage 341).

As in claim 53, Lee further discloses obtaining instructions to obtain a designation of the operation to be performed (par. 98, operation such as mirror necessitates a copy of primary storage data, i.e reference copy).

As in claim 54, Lee further discloses a computer system comprising: a processor (Fig 1 110); and the computer-readable storage medium of claim 50, wherein the computer-readable medium is coupled to the processor (Fig 1 140 storage).

As in claim 62, Lee further discloses wherein the performing the operation further comprises: providing a function name to a requestor, wherein the requestor generated the request (par 11,providing change function API).

As in claim 63, Lee further discloses wherein the property also comprises information specifying a characteristic of data stored in the plurality of locations, wherein the operation is only performed on the given location if data stored in the given location has the characteristic (Fig 5a 5b, metadata comprises information indicates change for the location).

As in claim 64, Lee further discloses wherein the property comprises information identifying a plurality of operations (par. 8, identifying operations such as add delete modifying etc..).

Response to Arguments

Applicant's arguments in response to the last office action has been fully considered but they are not persuasive. Examiner respectfully traverses Applicant's arguments for the following reasons:

Applicant's remarks filed 11/7/2008 have been fully considered but they are mooted in view of new ground(s) of rejection applied with new reference(s) found.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171. The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Hyung S. Sough/
Supervisory Patent Examiner, Art Unit 2188
03/18/09